

## DOOR OPENING LIMIT CONTROL SYSTEM

### ABSTRACT

5 A method and implementing computerized system are provided for enabling the setting of automatic door opening limits for doors. In an exemplary embodiment, distance measuring transceivers, such as radar devices, are implemented in the doors of a vehicle to determine the distance between a  
10 vehicle door and nearby obstacles which may obstruct the full opening of the door. If the measured obstacle distance is less than the predetermined clearance distance required for a full opening of the door, then the maximum allowable distance for the door to open without encountering the  
15 obstacle is determined and limits are set to prevent the vehicle door from opening more widely than the maximum allowable distance. In one embodiment, the door opening is restricted by mechanical limits which are established by a gear-driven or rack-and-pinion system controlled by a limit  
20 control motor. The limit control motor is operable to position a mechanical door opening limiting apparatus in response to the measured obstacle distance to physically limit the extent to which the door is allowed to open. Visual and audio signals are also provided to communicate  
25 related messages to the driver and/or passengers of the vehicle. In one embodiment, the system may be disabled when an emergency situation is detected such as when the vehicle air bags are deployed.